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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/367,423 08/12/99 FERGASON

J LAMBP102W0US

WM01/1002
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EXAMINER

TRAN, H

ART UNIT

PAPER NUMBER

2674

DATE MAILED:

10/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/367,423

Applicant(s)

FERGASON, JAMES L.

Examiner

HENRY N. TRAN

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 103-125 is/are pending in the application.
- 4a) Of the above claim(s) 1, 103-105 and 107-113 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 123-125 is/are allowed.
- 6) ☒ Claim(s) 106, 114, 115 and 122 is/are rejected.
- 7) ☒ Claim(s) 116, 120 and 121 is/are objected to.
- 8) ☒ Claim(s) 1 and 103-125 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This application has been examined. The preliminary amendment filed 4/2/01 was entered. Claims 1 and 103-125 are pending. The examination results are recited as follows.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 106 and 114-125, drawn to a liquid crystal display (LCD) driver and the use of said LCD driver in a projection system, classified in class 345, subclass 32.
 - II. Claims 1, 103-105 and 107-113, drawn to a LCD and a method of making said display, classified in class 349, subclass 56.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and process of using the product. The use as claimed cannot be practiced with a materially different product. Since the product is not allowable, restriction is proper between said method of making and method of using. The product claim will be examined along with the elected invention (MPEP § 806.05(i)).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with applicant's attorney, Mr. Warren A. Sklar, Registration No. 26,373, on 9/24/01, a provisional election was made without traverse to prosecute the invention of group I, claims 106 and 114-125. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1, 103-105 and 107-113 have been

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withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Because ~~claim 6~~¹⁰⁶ is dependent upon independent claim 1 which is in the non-elected invention; ~~claim 6~~¹⁰⁶ is therefore required to rewrite to include all the limitations of claim 1. For the purpose of this Office action, ~~claim 6~~¹⁰⁶ is examined with the assumption that it includes all the limitations of claim 1 as suggested above.

Information Disclosure Statement

6. The examiner has considered the references listed in the information disclosure statement (IDS) filed 8/12/99 (see attached form PTO-1449).

Specification

7. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

8. The disclosure is objected to under 37 CFR 1.71 because of the following informalities: the use of reference characters is inconsistent. For example, the same terminology "a mask" is used for referencing to the separator 17 (see figures 1, 2 and 4; p. 1, line 9; p. 5, lines 18-19; p. 6; lines 3-4; etc.); "the mask" 62 (see figure 10; p. 18, line 27; p. 19, line 26; p. 20, lines 5, 7, 11; etc.); and "the mask" 114 of the aperture 106 (see figure 12; p. 2, line 15; p. 3, line 7; etc.).

Applicant is required to submit an amendment, which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

For the purpose of this Office action, the examiner refers "the separator" as "the mask".

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 117-119 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. The term "about 0.12 or less" in claim 117 is a relative term which renders the claim indefinite. The term "about 0.12 or less" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

12. The term "the size of the volumes is about 5 microns or less" in claim 118 is a relative term which renders the claim indefinite. The term "the size of the volumes is about 5 microns or less" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

13. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely

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exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 119 recites the broad recitation “liquid crystal material having a birefringence of about 0.12 or less”, and the claim also recites “the birefringence of the liquid crystal material is between about 0.04 and about 0.08” which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 106, 114, 115 and 122 are rejected under 35 U.S.C. 102(b) as being anticipated by Takizawa (U.S. Patent 5,260,815).

Regarding claims 106 and 114, Takizawa teaches a liquid crystal display (LCD) 1 (a spatial light modulator 1) comprising plural liquid crystal picture elements comprising plural volumes 22 (liquid crystals 22) arranged on overlaying relation to a substrate 19 (a glass substrate 19) having plural electronic drive elements 500, 501, 502, and 503 (transparent electrode 500, TFT 501, liquid crystal 502, and transparent common electrode 503); a separator comprising spacer means 23 (a resin matrix 23) integrated with and between respective picture elements, located in relation to the space between respective electrical drive means, and being

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non-selectively operable to effect light (see col. 2, lines 62-66; col. 9, lines 64-68; col. 10, lines 3-42; col. 13, lines 16-20; figs. 2, 3A-D and 7C).

Regarding claims 115 and 122, Takizawa further teaches the transparent spacer means (the resin matrix 23 is made of transparent resin) (see col. 9, lines 52-63); and the liquid crystal is operationally nematic, smectic, or cholesteric (see col. 5, lines 20-22).

Allowable Subject Matter

16. Claims 123-125 are allowed.

17. Claims 116, 120 and 121 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. The following is an examiner's statement of reasons for allowance:

The instant application is directed to a nonobvious improvement over the invention described in US Pat. No. 5,260,815 to Takizawa. The improvement comprises projection optics in which the non-specularly scattered light is projected, and the specularly transmitted light is blocked. This patentable distinction is included in all independent claims 122-125.

19. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see form PTO-892).

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21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N. TRAN whose telephone number is (703) 308-8410. The examiner can normally be reached on Mon - Fri from 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD A. HJERPE, can be reached at (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office Whose telephone number is (703) 306-0377.

HENRY N. TRAN *HT*
Examiner
Art Unit 2674


ALMIS R. JANKUS
PRIMARY EXAMINER

hnt
September 26, 2001